DOCUMENT RESUME

ED 262 158 CE 042 350

AUTHOR Irvine, Freeman R., Jr.; Irvine, Carolyn L.
TITLE Cooperative Education: Its Role and Scope in Vocational Education.
PUB DATE 10 Oct 85
NOTE 33p.
PUB TYPE Reports - Research/Technical (143)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Cooperative Education; Coordination; Counselor Role; *Educational Benefits; Educational Cooperation; Educational History; Educational Needs; Educational Objectives; Educational Philosophy; Educational Practices; Educational Trends; Foreign Countries; Instructor Coordinators; *Outcomes of Education; Postsecondary Education; School Business Relationship; *School Role; Secondary Education; Teacher Role; Teaching Methods; Trend Analysis; *Vocational Education
IDENTIFIERS Great Britain; United States

ABSTRACT

Since 1960, cooperative education has become one of the major curriculum alternatives in American education at both the secondary and postsecondary levels. Among the many factors that have contributed to the popularity of cooperative education as a method of instruction are the following: the establishment of the National Commission for Cooperative Education, which gave cooperative education a national focus and significance; establishment of centers in colleges and universities for the training and development of cooperative personnel; availability of Federal funding for cooperative education programs; expansion of postsecondary-level cooperative education programming in four-year liberal arts colleges and two-year community colleges; and the attention focused in various national studies and reports on the need for greater labor market relevance in education. Cooperative education has been found to be beneficial to students, schools, and cooperating organizations alike. Research has shown that, by coordinating work experience with campus educational programs, cooperative education better prepares students for participation in the labor market, increases their motivation by allowing them to perceive connections between the jobs they hold and material taught at school, helps students develop a greater dependence upon their own judgments, improves their human relations skills, and reduces the number of dropouts. (MN)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED262158

COOPERATIVE EDUCATION:

ITS ROLE AND SCOPE IN VOCATIONAL EDUCATION

BY

DR. FREEMAN R. IRVINE, JR.
ASSOCIATE PROFESSOR OF INDUSTRIAL
EDUCATION
FLORIDA A & M UNIVERSITY
TALLAHASSEE, FLORIDA 32307

CAROLYN L. IRVINE
ASSISTANT PROFESSOR OF SPEECH
FLORIDA A & M UNIVERSITY
TALLAHASSEE, FLORIDA 32307

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION
CENTER (ERIC)

☒ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

OCTOBER 10, 1985

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

F Irvine

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

CE042350

BEST COPY AVAILABLE

CONTENTS

	Page
The Sandwich Plans in Great Britain	1
Schneider Philosophy	2
The Manifesto	3
Socio-Political Context From Public Perspective	4
Socio-Political Context From Private Perspective	5
Cooperative Education Defined	6
Philosophy and Objective	8
Advantages of Cooperative Education	9
Educational Advantages to the Student	9
Advantages to the Cooperative Organization	10
Advantages to the School	11
Operation of the Cooperative Plan	12
Three General Approaches	14
Coordination	15
The Teacher-Coordinator of the Occupational Plan	15
The Coordinator for an Occupational Plan	16
The Counselor-Coordinator	16
Cooperative Education and Vocational Education	17
Summary	27
References	30

COOPERATIVE EDUCATION:

ITS ROLE AND SCOPE IN VOCATIONAL EDUCATION

The basic principles of cooperative education - learning by doing, practical application of classroom theory, etc. can be traced to man's earliest societies. As early as the Roman era, Marcus Vitruvily Pollio, architect for Augustus Ceasar, wrote "Practice is the continuous and regular exercise of employment where manual work is done with any necessary material according to the design of a drawing. Theory, on the other hand, is the ability to demonstrate and explain the production of dexterity on the principles of production."

"Sandwich Plans" in Great Britain

Integration of practical experiences with classroom theory in a formal educational setting was introduced in Scotland in 1880 and Great Britain in 1903, several years before cooperative education began in the United States. In England the program was referred to as the "Sandwich Plan." As the name implies, students "Sandwiched" periods of classroom instruction between periods of practical work experience.

Cooperative education in the United States traces its formal inception to the year 1906. Its founder, Herman Schneider, attended Lehigh University in the early 1890s

and while an engineering student there he worked part-time in the office of architect and construction engineer William Leh. It was while at Lehigh that Schneider began to formulate his philosophy of education which was to manifest itself six years later at the University of Cincinnati.

Schneider Philosophy

Schneider believed that programs for the training of engineers as conducted in the colleges of that period were inadequate. Principles, he thought, might be studied in the abstract, but not their application or experience. He envisioned a new kind of collegiate institution which would offer a combined theoretical and practical training. This would be designed to give the student a foundation in the principles of science, the ability to use hese principles in practice, the capacity to understand engineering in general as well as in specifics, a working knowledge of business forms and processes, and a knowledge of man as well as of matter.

In 1903, Schneider joined the staff of the University of Cincinnati as assistant professor of Civil Engineering. In attempting to interest the Uni ersity authorities in his new idea, he found them rather skeptical. However, after obtaining their permission to talk to the industrial leaders of Cincinnati, he found a ady market for the idea in the

industrial community. For some time the industrialist had recognized that there was a lack of practical knowledge in the engineering graduates who came to them for employment. Armed with this information, Schneider returned to the University authorities who reluctantly agreed to permit him to start what we now refer to as "The Cooperative Plan".

This philosophy can be traced to Schneider's work experience while in college and his observation of the limitations of colleges to teach certain facets of engineering. For three years Schneider attempted to develop his Co-op idea at Lehigh, but without success.

The Manifesto

A significant milestone in the history of cooperative education took place in 1946 with the publication of The Cooperative System A Manifesto, by C. S. Frennd. The Manifesto was accepted as the official statement of the Cooperative Education Division of ASEE and, as uch, proposed to serve these objectives:

1. It was to be a primary source of information about the cooperative plan;
2. Provide direction for faculty and officials of colleges offering the cooperative plan;
3. Act as a guide for colleges experimenting with Co-op; and
4. Make public the aims and plans of the cooper ative movement.

Socio-Political Context From Public Perspective

It is a rather routinely accepted fact that the general welfare clause of the constitution is sufficient justification for government support. This "fact" may have come about more as a result of public default rather than concious efforts. Nonetheless, it is a fact that few, if anv, segments of public education are immune from direct governmental influence.

It cannot be denied that the influence of the federal government has been an important factor in the development and expansion of cooperative education. Early influences were, to be certain, subtle inferences in reports such as the 1947 Truman Commission Report on Higher Education for American Democracy; The Kerner Commission Report of 1967, The National Advisory Commission on Civil Disorders; The Scranton Commission Report of 1970, on Campus Unrest, and The Newman Report of 1971, The "Report on Higher Education".

These various commission studies have had varying im pact on education. The degree of their effect may be related to the presence or absence of imaginative and creative ideas which came from recipients affected by them. Regardless of their impact on education, it is safe to say that each one, some obviously more than others, contributed to the growing awareness of cooperative education as a viable force in the American higher education system.

In the final analysis, it was evident that these persons representing the federal government's point of view in the foregoing reports supported the expanding role of cooperative education as a viable component of United States higher education. It may be observed that the intensity and degree of support has grown steadily since Truman issued his "First Report". From the vantage point of government involvement, as a source of financial support, it is clear that cooperative education has achieved a high degree of acceptance and stature as a part of American higher education. Also from financial aid as a means for quieting unrest to an integral part of the academic experience, cooperative education has evolved to its present status of respectability.

Socio-Political Context From Private Perspective

The stimulus to expand cooperative programs in post-secondary institutions resulted not only from political and or governmental pressures but from various other pressures. Private agencies and institutions have been and continue to be busily engaged in activities which are exerting an influence on the educational community to modify its traditional offerings to better address itself to the needs and desires of students and society. Historically, such attempts have not always been met with a favorable response from the established educational community. It is readily apparent,

however, that a broad base of acceptance of cooperative education and other work experience programs is a reality.

Among the most prominent individuals who were early supporters of cooperative education was Charles Kettering, Research Director of the General Motors Corporation and Chairman of the Thomas A. Edison Foundation. Kettering became acquainted with the concept of Co-op from Schneider himself and provided support for Schneider's program in the early 1900s.

Two of the highly outstanding contributions resulted from the influences of Kettering were:

1. The underwriting of a national study on cooperative education conducted by Wilson and Lyons in 1961, and
2. The establishment of the National Commission for Cooperative Education in 1962.

These privately sponsored studies, in particular the Carnegie Commission, manifest the socio-political and educational evolution of cooperative education. From a financial aid emphasis through the search for solutions of student unrest to renewed respectability for vocational education, work experience is called upon to serve the needs of students and society.

Cooperative Education Defined

A dictionary of education defines cooperative education as, a program for persons enrolled in a school that provides

for alternating study in school with a job in industry or business. The two experiences being so planned and supervised cooperatively by the school and the employer that each contributes definitely to the students' development in his chosen occupation. Work periods and school attendance may be on alternate half days, weeks or other periods of time.

The 1976 Vocational Education Aid (Public Law 94-482) defines "Cooperative Education", as a program of vocational education for persons who, through written cooperative arrangements between the school and the employers, receive instruction, including required academic courses and related vocational instruction by alternation of study in school with a job in any occupational field, but these two experiences must be planned and supervised by the school and employers so that each contributes to the student's education and employability. Work periods and school attendance may be on alternate half days, full days, week or other periods of time in fulfilling the cooperative program.

While the Cooperative Program Association defines Cooperative Education as, the integration of classroom work and practical experience in an organized program under which students alternate periods of attendance at college with periods of employment in any organization which will enhance the students self-realization and direction, and which will provide cultural learning situations outside of the classroom environment. If possible, the students work should be

allied to study and individual interest within the field of study.

The following factors should be adhered to as closely as possible:

1. Where possible, the student's work should be related as closely as possible to his field of study and individual interest within the field.

2. The employment must be considered to be a regular, continuing, and essential element in the educational process and some minimum amount of employment and minimum standard of performance must be included in the requirement for the degree or certificate presented by the school.

3. The working experience will ideally increase in difficulty and responsibility as the student progresses through the academic curriculum in general, and shall parallel as closely as possible his progress through the academic phases in particular.

Philosophy and Objective

In Dean Schneider's concept of cooperative education, it seemed very important to him to weld theory and practice. A student should learn about a piece of equipment from a textbook. He could inspect it and observe its operation in a school shop. But the tool he operated in an industrial plant was not an isolated piece of shop equipment or a working model. It was a unit of manufacturing equipment, and its operation was a phase of production. The machine in industrial use suggested to an inquiring mind many technical and operating questions, which the student brought back to college as part of his "work report".

The students experience in industry was not strictly confined to the observation of technical problems. It gave him the opportunity to meet and work with men under varied and sometimes unpredictable conditions, to get along with them, learn from them, and command their respect. Indeed, these advantages alone, while seaming to be-products of the industrial work, could be just as important in shaping a young person's life as the opportunity to obtain experience in a chosen field.

Advantages of Cooperative Education

For many years after cooperative programs were in operation it was assumed that positive advantages could be claimed for it, for the student, for the cooperating organization, and for the participating school. There was little, if any documentation from reliable sources on qualitative measurements concerning the claimed values.

Educational Advantages to the Student

1. The cooperative education program provides an early opportunity to put into practice the skills and knowledge that are being learned in the classroom.
2. The student will receive occupational guidance which will provide him with an accurate and positive identification of the various options within the professions.

3. The student develops a greater sense of responsibility for his own efforts, greater dependence on his own judgement, and a maturity that will greatly enhance his choice for achieving success.
4. The student can make useful employment contacts which will aid in his placement after graduation.
5. The student discovers early if his choice of a major area of study has been a wise one.
6. The cooperative education program provides assistance to the student in financing his education.
7. The cooperative experience enables the student to develop a greater understanding of people and expands his skills in human relations.

Advantages to the Cooperative Organization

1. The student can be throughly grounded in established employer practices and organization while he is still at a formative level.
2. The program is an excellent source of temporary and potentially permanent manpower.
3. The infusion of bright young people, fresh from an educational environment, into an organization can provide new ideas and viewpoints which can be refreshing and stimulating.

4. Most cooperative programs are developed in such a way that allows continuous job coverage so the employer usually does not have to be concerned about job continuity.
5. The cooperative student serve as a "goodwill ambassador" for his cooperating organization with faculty and other students upon returning to campus.
6. A mutually important industry - college relationship is enhanced.
7. The cooperative program provides the company with a low-cost training program since the cooperative student generally earns a salary which is below the average salary paid to a graduate; he more nearly "earns" his salary at the beginning stages of professional employment.

Advantages to the School

1. The establishment of a relationship with the cooperating organization can reduce the "isolationism" of the college and result in a better rapport with the commercial community.
2. The faculty of the institution can be kept up-to-date and stimulated by the events which transpire in the daily life of the cooperative student which can be brought to the classroom.

3. In certain instances, the student in industry has the advantage of using facilities and equipment of the most modern sort. It is sometimes too costly for the college to supply equipment of either a specialized nature or of recent vintage.
4. The placement of graduates of a cooperative program is much easier for the college because of their cooperative experience.
5. Fund-raising activities are often aided substancially by the contributions of organizations participating in the schools cooperative program as they recognize the benefits of their involvement with the educational institution through the cooperative program.
6. Since cooperative students can alternate on a year round basis, the college physical plant can be used more efficiently with the advantage that more students can be accommodated with existing facilities.

Operation of the Cooperative Plan

The cooperative program is operated in many different ways to fit the educational philosophy of each school. In the majority of cases, a full-time position is obtained for a pair of students, one of whom works on the job, while his partner or "alternate" is in school. At the end of a certain period of time, the two changes places in such a manner that the position is filled continuously. The length of the

period of alternation varies in different institutions, as does the total amount of work experience required and the point in the students curriculum at which it starts and ends.

There is great variance among institutions regarding which students shall be admitted to the cooperative program. Some present their undergraduate offerings on a cooperative basis only. Some make the program compulsory for certain of their majors, optional for others. Most cooperative programs are given on an optional basis. The option usually exists as an option both on the part of the student and the college with one major criterion for admission being the students academic standing. The option may also be determined by whether a student is selected by any of the employing organization.

At Florida Agriculture and Mechanical University (FAMU), the Cooperative Education Program is open to any student who has at least 45 semester hours and who has maintained a grade point average of at least 2.00. Transfer students may be eligible after one (1) semester at the University. Students are paid for their services by the cooperating employers. Salaries of cooperative students vary with field of study, educational level, nature of work, salary of the employer, and with different geographical locations.

FAMU also operate on single employer basis, that is, the student is expected to return to the same employer each

of his work terms. He may of course, be allowed to change employers under certain circumstances. A student may elect to study one semester and Co-op the next or study one semester and Co-op two semesters. Also up to five (5) semester hours may be earned for each experience, and a maximum of fifteen (15) semester hours for the total Co-op involvement.

Three General Approaches

1. Single Employer - Certain schools will place the student with the intent that the student spend all of his cooperative periods with the same employer. Such arrangements imply that the cooperating organization will provide the student with a planned, progressive program with increasing responsibilities as the student integrates his work experience with further schooling.
2. Diversified Employers - Certain schools find it desirable to switch their students among as many employers as possible. This gives the student the opportunity to make employer or career comparisons which might not be obtainable within one organization. One disadvantage to this arrangement is that the student will probably not be as able to advance to a responsible position in any one organization.
3. Combination - The majority of the schools operate their programs in a manner to include a combination of the arrangements outlined above.

Coordination

Vital to the successful operation of a cooperative program are the administrators who are appointed for this duty. These administrators are usually referred to as "coordinators". Administrators working for the cooperating employer may have a variety of titles. Both representatives should combine the best qualities of job supervisors, and each must possess an interest in young people with an altruistic willingness to help them. The success or failure of the cooperative program depends largely upon the coordinator's intelligence, initiative, resourcefulness, and ability to inspire students.

The Teacher-Coordinator of the Occupational Plan

The vocational teacher-coordinator has two main responsibilities:

1. As the instructor of the occupational orientation and related skills training laboratory class in which all trainees are enrolled.
2. As the coordinator of the job laboratory experiences for the occupation.

Responsibility includes the training and cooperative work experiences activities for only one group of trainees.

The Coordinator for An Occupational Plan

The main responsibility of the coordinator who does not teach is to place all trainees in proper training stations and to provide the necessary coordination between:

1. The employer and the teacher of related instruction class.
2. The employer and counselor.

Coordination of communication within the school (administrators, instructors, counselors) is an essential part of the coordinator's responsibilities.

The Counselor-Coordinator:

The two main responsibilities of the counselor-coordinator includes:

1. Counseling individual trainees in a general work experience or work study program.
2. Directing on-the-job experiences for these students. At times this individual also teaches the students in a related class which deals with the job problems of the trainee.

Several activities and devices are used to gain the maximum benefits of the cooperative education program. Such activities includes:

1. Orientation class - Before a student undertakes his first cooperative position, it is advisable for the school coordinator to acquaint him with all aspects of the program.

2. Coordination Class - After the student returns from industry, some type of meeting is advisable to provide the opportunity to exchange information so that students can benefit from the experiences of others.

3. Work Reports - The report that the student writes is the single device which can best be used to ensure that the student obtains the maximum benefit from his job. This is a requirement of most cooperative programs.

Cooperative Education and Vocational Education

Cooperative education is a powerful instrument for development and peace. The integration of academic study with work in the productive sector will accelerate the pace of regional and world development. The focus on cooperative education rests on developing human resources - perhaps the most difficult challenge for mankind today.

It is undeniable that the trends of world development are both uneven and marked with potentially grave dangers. Thus, within the past decades the rate of growth in the relatively advanced societies has slowed down. This contrasts, especially, with the period immediately following the adoption of the Treaty of Rome in 1957 and the concurrent expansion of the Japanese economy.

Many of the world's poorer nations have also encountered severe difficulties, particularly those which must import nearly all of their energy supplies. Within the western

hemisphere, fortunately, this problem is being significantly alleviated by the Organization of American States (OAS) oil-producing members who have adopted strategic measures for helping Central America and the Caribbean to adjust to the changing economic conditions.

At the same time, there has been an historic increase in the prices for land, capital, labor and natural resources. With this increase has come a series of efforts designed to adjust the world economy to modern economic realities, with specific attention being paid to forging instruments for promoting both expanded tides of growth and social justice. One outcome of these new circumstances has been the insistence of the developing nations on creating a New International Order.

A key factor of these changing global conditions is the emergence of a broad group of nations into middle levels of development, notably in Latin America, the Caribbean and large parts of South East Asia. Over the next two decades, progress with these societies may prove to be a major stimulus for revitalizing the world economy.

In this transformed world economic outlook, perhaps the paramount need facing all nations and societies is to increase their human condition and capacities in terms of political, economic, cultural, technical and moral development.

To a major degree, this means stepping up the process of training men and women in science and technology. But above and beyond this is an even more important goal, e.g., developing national communities in such a way as to allow millions of human beings to participate more actively and directly in shaping their own future and that of the societies of which they are citizens.

Education, whether formal or informal, must adapt to the new realities. It is increasingly recognized that a broader, yet more intense, relationship must be constructed between educational systems and the national productive sector of each country.

The technique of combining pure academic experience in our institutions of higher learning with periods of on-the-job training in the productive sector constitutes a unique contribution of cooperative education. The scientists or engineers emerging from such a cooperative educational program will be better professionals, highly trained yet with a true perception of the real needs of industry and able, therefore, to make a real contribution to the development of their societies.

The comprehensive study on the needs of youth today, completed two decades ago, indicate that the need for cooperative work experiences today is greater than ever. Judge

Mary Conway Kohler, Chairman of the National Commission on Resources for Youth, states in a recent issue of Phi Delta Kappan that maturity is measured by one's ability to accept and follow through on responsibilities for one's self, one's family, one's work and one's community. To make that transition to adulthood, young people urgently need opportunities to be responsible, caring, participating members of our society. In adolescence, young people begin to define self-worth in terms of what they are able to do and the impact they have on their surroundings. Yet, this opportunity to discover one's self through action and contribution is missing in our society. Young people are asked to prepare for a nebulous (unclearly identified or established) future without allowing them to participate here and now. By denying young people an immediate role in our society, we prolong their dependence, undermine their self-esteem, and cripple their capacity to care. No wonder young people feel anxious, alienated and unwanted.

The problem of empty adolescence is relatively recent. In the past, no one expected young people to go through a lengthy adolescence. Agricultural and early industrial society required immense amounts of labor and young people were absorbed early into the workforce. Families were large, and simple survival of the household depended upon contributions from everyone, including young children. As the children

grew, they gradually assumed more and more responsibilities until almost without noticing it, they became adults with jobs and families of their own.

Today, society offers little for youth to do, even though this is the time when they most urgently need to examine and explore the alternatives that will be available to them as adults.

As we review the contemporary scene portrayed by Judge Kohler, we see clearly that youth today need real opportunity to participate responsibly in the important institutions of modern society. In this respect, cooperative education makes a substantial contribution to the development of youth and to the survival and strengthening of our society. This contribution is made by furnishing opportunities for young people to participate responsibly in the world of work while being encouraged on the campus to gain greater understanding of the work experiences and to acquire those academic competencies that enable them to guide their performance intelligently.

The following educational values of cooperative education were identified by Wilson and Lyons (1961) in their research:

1. By coordinating work experience with the campus educational program, theory and practice are more closely related and students find greater meaning in their studies.

2. This coordination of work and study increases motivation. As students see connections between

the jobs they hold and the things they are learning on campus, greater interest in academic work develops.

3. For many students, work experience contributes to a greater sense of responsibility for their own efforts, greater dependence upon their own judgements, and a corresponding development of maturity.

4. Because the work experiences involve the students in relations with co-workers who come from a variety of backgrounds, and because success in these jobs require constructive relationships with colleagues, most students in cooperative education develop greater understanding of other people and greater skills in human relations. Particularly important in this connection is the value obtained from the contacts made with adults in a variety of situations, thus helping to break down the segregation of college students into a wholly adolescent community.

5. Cooperative education helps markedly to orient college students to the world of work. Most college students are greatly concerned about their future life work. They want to know more about the range of occupations available to them and the potentials and limitations of these fields. They want to know about the qualifications demanded and their own fitness for them. Cooperative education furnishes students with opportunities for exploring their own abilities in connection with real jobs and they find a direct meaning of gaining vocational information and vocational guidance not only in the occupations in which they are employed, but in a number of related fields as well. They have a chance to test their own aptitudes more fully than is normally possible on the campus. Furthermore, in many programs of cooperative education, students are enabled to understand and appreciate more fully the meaning of work to the individual and the function of occupation in providing the wide-range of goods and services characteristic of an economy.

6. From the standpoint of the nation with its increasing need for well-educated people in science, as well as for the standpoint of individual self-realization, cooperative education has an important value in making higher education possible and attractive to many young people who would otherwise not go to college. The earnings of the students while on the job have enabled many to attend college who could not otherwise finance their education. The assurance of having a job while in college makes cooperative education seem practical and attainable to many youths and their families who have had no previous connections with colleges and are skeptical of the values of "book learning" and of their own potential for college work.

7. As work programs are planned and developed, and as the students rotate from college to work and back to college again, the faculty is better able to keep in touch with business, industry, and some other professions. For many of the colleges, information gained through these contacts is used in planning the curriculum and in teaching, thus, contributing to greater educational vitality.

In addition to the above enumerated values of cooperative education by Wilson and Lyons, cooperative education motivates the student to learn, clarifies goals to the student, provides confidence to the student, rewards the student, and furnishes feedback to the student.

Lack of motivation to learn what instructors try to teach is not commonly a problem in professional schools in courses that are perceived by students as dealing with matters of importance in professional activities. But in many programs, the student is not clear about what behaviors

he/she needs to acquire to be a competent professional. For example, in engineering, the first-year student often spends most of his/her time in courses taught by mathematicians and scientists. He/she sees something of what they do, but he/she observes few engineers closely enough to see what they do and particularly to distinguish between what an engineer does with mathematics and physics and what a mathematician or physicist does. Cooperative education enables the student to discover by work experience the ways in which mathematics and physics are used and what particulars in these subjects illuminate his or her work. Work experience in other occupations can serve in a similar manner to enhance motivation for relevant academic learning.

In attempting to carry on the behavior to be learned, the student needs to have a fairly clear conception of what he/she is trying to learn. The work experience part of cooperative education helps the student to perceive directly some of the behaviors he/she needs to learn, and those instructors who keep in touch with the occupational roles of students can help to clarify the learning goals.

Some students do not attempt learning activities because they feel they will not be successful. If the students do not believe they can do the learning task, they are not likely to attempt to because they do not want to be perceived

as failures by their classmates. Cooperative education, by relating the work activities in which the student is engaged to the campus learning activities, engenders confidence in the student that he or she can do academic tasks that are relevant to work he or she is doing satisfactorily.

As the student carries on the behavior he or she is seeking to learn, the stimulation to continue to practice comes from being rewarded with the satisfaction he or she obtains from successful performance. This is a sort of intrinsic reward which is encouraged in education. Because most students care deeply about succeeding in their work, cooperative education's work experience furnishes an added context in which success in campus learning provides rewards. Most students obtain satisfaction from activities that are perceived as helping them in their work, by giving them increased understanding, skill and appreciation of what they are doing.

Some students have difficulty with the learning task and do not carry on the desired behavior satisfactorily. Obviously, to reward their efforts would result in their learning the wrong things. They need to be informed that their behavior is not satisfactory, and they should get some information about what the difficulty seemed to be. This is called feedback. Feedback is not an usual procedure in college and university courses. Cooperative education does

not automatically furnish feedback to students. However, the procedure of some work supervisors and coordinators of reviewing work experiences and academic learning activities with individual students will provide information to the student regarding his successes and failures that help to guide his/her further efforts in learning both on the job and in the classroom.

Cooperative education expands tremendously the opportunities for practical experience provided students. The work tasks and other off-campus experiences furnish a real context for the practice of problem-solving efforts at understanding natural and human phenomena, for exploring and experiencing new attitudes and interests and for the development of relevant emotional responses.

At the high school level, cooperative education plans an important role in preparing students for the world of work. Many students have gained much needed practical experiences through cooperative education programs sponsored by high schools and area vocational schools. Cooperative education programs have been particularly successful in the areas of business and distributive education. With a quality cooperative education program, everybody gains. Students learn about the real world of work, and business and industry have an excellent source of new emplovees. The ideal aimed for in education, namely, that of a highly positive cooperative

school-industry-business relationship, is fully realized. Cooperative education enables students to choose the occupation they desire to pursue in life. Cooperative students earn money which may be used to defray some of their educational expense.

A final significant role of cooperative education is that of reducing the number of dropouts at both high school and college levels.

SUMMARY

Since 1960 cooperative education has become one of the major curriculum alternatives in American education at both secondary and post-secondary levels. On the surface, several factors have contributed to this sudden burst of momentum.

First, the establishment of the National Commission for Cooperative Education gave national focus and significance to cooperative education.

The second factor contributing to the phenomenal growth of cooperative education was the establishment of centers in colleges and universities for the training and development of cooperative personnel.

The third factor is perhaps one of the most dramatic, the impacts of federal funding upon cooperative education.

The fourth factor contributing to the growth of cooperative post-secondary education has been a rapid expansion of

cooperative programs into disciplines other than engineering and into four-year liberal arts colleges and two-year community colleges.

The Fifth factor contributing to the growth of cooperative post-secondary education is much attention has been given to the need for relevance in education by students and by such prestigious groups as The Carnegie Commission, The Newman Task Force, The Commission on Non-Traditional Study, etc.

These factors in the popularity and acceptability of cooperative education programs are not causes, only concomitant consequences of the evolution of cooperative education as a key component of a socio-political and educational phenomenon - that of life-long learning. In this developing concept and discussion of life-long learning, the basic and necessary element is a combination of work and education in mutually reinforcing experience.

Finally going through an unplanned educational program in terms of its central place in the academic process, you will notice that cooperative education has tended to find fragmented application. Even though cooperative education programs can be designed with specific single objectives (e.g. academic, social awareness, etc.). The basic concepts of combining work and study influence and profit every aspect of post-secondary education.

Cooperative education or some aspect of off-campus study was implied or specifically recommended by all of the "unrest" studies as a means of supplementing and enhancing the curricular. The fact that cooperative education programs were mentioned in each study provides strong credibility for the potential such innovations or alternatives offer to higher education as a weapon against student discontent and/or unrest.

As we have seen, for many college students the primary motivation for attending college is to prepare for employment. Taking this particular student interest into account, Lewis Mayhew identified "alternate" curricular devices for professional development in institutions of higher learning.

REFFRENCES

1. Good, Carter V., Dictionary of Education, third edition.

2. Cooperative Education Association, A Directory of Cooperative Education, March, 1970.

3. Bender, Louis W., Lucas, Aaron D., and Holsenbeck, Daniel C., Cooperative Education: Conception to Credibility, College of Education, Florida State University.

4. Pamphlet, Cooperative Education Association.

5. Pamphlet, Cooperative Education Program, Florida A&M University.

6. Manson, Ralph E., Haines, Peter G., and Furtado, Lorraine T., Cooperative Occupational Education and Work Experience in the Curriculum, third edition.